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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/678,025	10/04/2000	Toru Koizumi	35.C14850	5647

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EXAMINER

KAO, CHIH CHENG G

ART UNIT PAPER NUMBER

2882

DATE MAILED: 04/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/678,025

Applicant(s)

KOIZUMI, TORU

Examiner

Chih-Cheng Glen Kao

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 9-13 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 5-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. During a telephone conversation with Joseph Ragusa on January 23, 2002, a provisional election was made without traverse to prosecute a species of the invention encompassed by claims 1, 2, 4, 7-11, and 13. The Examiner has withdrawn the restriction requirement.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character " ϕ_{TX1} " in Figure 3 has been used to designate both control pulses to the transfer switch lines to two separate rows in the array. This objection may be obviated by changing the bottom " ϕ_{TX1} " to " ϕ_{TX2} ". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Figure 33, #86 and 87. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 9, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kochi et al. (US Patent 6,188,094 B1). Kochi et al. discloses a solid image pickup device (Fig. 7) comprising at least one unit cell in a two-dimensional matrix having a photoelectric conversion portion (Fig. 7, #901), an amplifying means (Fig. 7, #903), a transfer means (Fig. 7, #911), a reset means (Fig. 7, #902), and a selecting means (Fig. 7, #904), wherein at least two of a selection control line for controlling the selecting means, a transfer control line for controlling the transfer means, a transfer control line for controlling the transfer means, a reset control line for controlling the reset means, and the signal output line in a unit cell, or between two unit cells operating in time series fashion, or between two adjoining unit cells are one common line (Fig. 7,

" ϕ SEL(n+1)"). Having a noise signal and an optical signal read out from the signal output line is inherent to the device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kochi et al. as applied to claim 1 above, and further in view of Pritchard et al. (US Patent 6,054,704). Kochi et al. discloses a device as recited above. However, Kochi et al. does not seem to specifically disclose the transfer control line and the selection control line as the common line.

Pritchard et al. teaches a transfer and selection control line as the common line (Fig. 1, #66).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the common line of Pritchard et al. with the device of Kochi et al., since one would be motivated to reduce the number of metal interconnect lines as shown by Pritchard et al. (col. 5, lines 45-50) to save manufacturing costs.

6. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kochi et al. Kochi et al. discloses a device as recited above. Kochi et al. further discloses a power line (Fig. 7, power to #902 and 904), and an optical system (Fig. 1). However, Kochi et al. does not seem

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to specifically disclose the power line between two adjoining cells, a signal processing circuit, and the photoelectric conversion portion, amplifying means, transfer means, reset means, and selecting means of all the same conductivity type.

The Examiner takes Official Notice that a signal processing circuit is conventionally used with an image pickup device.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have power lines between adjoining cells, a signal processing circuit, and the components having the same conductivity type with the device of Kochi et al., which is explained with motivation as follows.

Regarding power lines, it would have been obvious to integrate the power lines between two adjoining cells, since forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. One would be motivated to integrate the power lines to reduce wires and save on manufacturing costs.

Regarding the signal processing circuit, one would be motivated to process the signals to create an image for a user to view, such as a digital camera.

Lastly, with regards to the conductivity type, the components conventionally employ n-type or p-type semiconductor material. It would have been within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use by engineering efficiency. One would be motivated to use the same conductivity type to reduce manufacturing steps. Instead of taking two steps to dope two different types of materials, only one step is need to dope all components with the same type of material. Production time is more efficiently used.

Allowable Subject Matter

7. Claims 2, 3, and 5-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2, 7, and 8, prior art does not specifically disclose or fairly suggest the reset control and signal output lines as the common line in combination with all the limitations in the claims and base claim.

Regarding claim 3, prior art does not specifically disclose or fairly suggest the transfer control and signal output lines as the common line in combination with all the limitations in the claims and base claim.

Regarding claim 5, prior art does not specifically disclose or fairly suggest the transfer and reset control lines as the common line in combination with all the limitations in the claims and base claim.

Regarding claim 6, prior art does not specifically disclose or fairly suggest the selection and reset control lines as the common line in combination with all the limitations in the claims and base claim.

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Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - Th (8 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk
March 22, 2002



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